

Credit Access and Farm Processing Asset Accumulation among Oil Palm Processors in Akwa Ibom State, Nigeria

By

Bassey, Nsikan Edet

Department of Agricultural Economics & Extension, Akwa Ibom State University, Obio Akpa Campus, P.M.B. 1167, Uyo, Akwa Ibom State, Nigeria

E-mail: nebass2005@gmail.com

Ajah, Agom Eucharía

Department of Agricultural Economics & extension, University of Calabar, Cross River State, Nigeria

Nkeme, Kesit Kufre

Department of Agricultural Economics & Extension, Akwa Ibom State University, Obio Akpa Campus, P.M.B. 1167, Uyo, Akwa Ibom State, Nigeria

Abstract

The study analyzed credit access and farm processing asset accumulation among 140 oil palm processors selected through a multi-stage sampling using questionnaire in Abak Agricultural Zone, Akwa Ibom State, Nigeria. Data was analyzed using descriptive statistics, Z-test, Pearson Product Moment Correlation Coefficient, Causality test and multiple regression analysis. Finding revealed a mean education, age, household size, and processing experience of 12 years, 43 years, 6 persons and 12 years, respectively. Findings further revealed that of a total amount of ₦11,256,500 accessed as credit by processors, ₦7,156,500 (63.3%) was from informal sources while ₦4,100,000 (36.4%) was from formal sources. Result also revealed a significant difference in mean value of processing asset between credit using and non-credit using processors ($P > 0.01$). Result of the correlation analysis between credit access and farm asset yielded a positive (0.244) significant relationship ($P > 0.05$). Result of the causality test revealed the existence of a bi-directional relationship between credit income share of total household income and farm processing asset accumulation denoting the presence of a complementary relationship between both variables. Findings further showed that accumulation of processing assets was influenced by credit access, off-farm income, farm income, membership of cooperative, educational attainment and household sizes. The study concluded that credit access and asset accumulation have a complementary relationship. Hence, future policy measures design to boost farm asset accumulation should lay emphasis on measures that will promote credit access and boost farm income and vice versa.

Keywords: Credit access; farm processing asset; oil palm processors, accumulation and Akwa Ibom State

Introduction

Every business whether agro or non-agro allied requires the use of capital. As one of the factors of production, it is a critical component of wealth that can be utilized for further production. Capital which can be used for business start-up, to procure inputs, adopt new production and processing technologies and for farm business expansion can be sourced either through equity or by securing credit. While equity refers to owner's contribution to business, Ajah, Igiri and Ekpenyong, (2017) defined credit acquisition as the ability of farm and farm

households to secure credit for farm investment. Undoubtedly, every segment of agro based firms requires the use of credit. Access to credit provides farm families with investible funds and enhances their capacity to cope with unanticipated financial shocks. Several empirical studies by (Abiodun, Emmanuel. Charmaine and Stephen, 2018; Ehiakpor, Adzawla and Danso-Abbeam (2016) have further attested to the potential of credit in boosting agro-based firms income and assets. This is partly informed by the enormous role played by agro-based firms and small and medium scale enterprises in general in boosting national output. This also justifies the array of financial schemes and initiatives floated by successive governments in boosting credit supply to this sector as reported by Olurunsholaa (2003) in Bassey, Arene and Okpukpra, (2014), Bassey, Asinya and Amba, (2014) and Bassey, Arene and Okpukpra, (2014), respectively.

Despite these initiatives, Bassey, Arene and Okpukpra, (2014) and Bassey, Asinya, and Amba, (2014) reported that agro-based firms in Nigeria continue to record dismal performances. Ministry of Niger Delta affairs, (2011) corroborated that traditional agro based industries existing in the region continue to depend on manual artisanal technique and use local input and skill transferred through family upbringing at the detriment of formal training. Studies by (Bassey, Arene and Okpukpra, 2014, Bassey, Okeke and Edet, 2015 and Bassey, Asinya and Amba, 2014 and Ministry of Niger Delta Affairs, 2011) attributed the poor performance of these agro based firms to poor access to credit and insufficient funding. Proper funding and availability of credit to agro based firms will facilitate their adoption of improved processing technology, assist in input procurement and fosters working capital and other assets accumulation.

Undoubtedly, oil palm processing firms are integral component of agro based firms in Nigeria that have recorded dismay performances due to capital constraint of recent time. Oil palm processing requires the use of hi-tech equipment which most times elude them due to poor access to credit. Vincent, Akpan and Udoaka, (2012) reported that acquisition of hi-tech processing equipment poses a challenge to processors due to their resource poor nature. This account for the prevalence of both manual and locally fabricated oil palm processing equipment found around the area that results in low quality oil with its low pricing. Orewa et al (2009) and Ugwu (2009) in Vincent, Akpan and Udoaka, (2012) reported that 80% of palm oil processed comes from dispersed small holders who harvest semi wild palm fruits and use manual processing techniques, that are labour intensive and highly inefficient with low palm extraction rate and high free fatty acid content that can be up to 30% in some cases. As a result most farmers prefer to sell their fruits at relatively lower prices instead of processing them (Vincent, Akpan and Udoaka, 2012). This impact negatively on their net income and accounted for the low and fluctuating income characterizing rural oil palm processing sector. Consequently, there is little or no savings, which in addition to the inability of formal credit sources to meet the credit need of rural entrepreneurs in Nigeria (Bassey, Agom and Ikpe, 2016) hinders their ability to accumulate capital and acquire other tangible processing equipment and assets which would have been mortgaged as collateral for formal credit, thereby further constraining their credit access status. As a result, capital accumulation within this sector is constrained and renders the quest for the attainment of food security a mirage. This is partly liable for the winding up of several oil processing firms and the reason why most farmers prefer to sell their fruits at low prices instead of processing them to earn higher income in the study area.

In addition to these problems, there is paucity of literature on the level of farm capital accumulation, contribution of credit to total farm income and its relationship with farm capital as well as the causality between credit income and farm capital in the study area. Therefore

given the importance of palm oil to the economy and the potential of credit in boosting farm capital acquisition there is need to examine the relationship between credit and capital accumulation in the study area. Against this backdrop, this study analyzes credit access and farm capital accumulation among palm oil processors in AkwaIbom State, Nigeria

Material and Method

Study Area

The study was carried out in AkwaIbom State which is one of the 31 States in Nigeria. The state has a population of 5,451, 277 people and lies in Latitude 4 0 321 and 50331 North and Longitude 70351 and 8025 East. It has a land area of 7,249 square kilometers with two distinct seasons. These are dry season which spanned from November through March and wet season that ranged from April to October. (NPC 2006). The major economic resources of the people are Palm produce, silica sand, cassava and clay. It is located on latitude of 4.98⁰N and longitude of 7.79⁰E and on an elevation of 174M above the sea level.

Sources and method of data collection

This study employed both primary and secondary data. Secondary data was collected from records of oil palm processors and other documented sources while primary data was collected through the use of questionnaire that were administered to the respondents. A multi stage sampling approach was adopted in choosing the respondents. The first stage involved the purposive selection of Abak Agricultural Zone due to high concentration of oil palm processors there. The second involved the random selection of five blocks from the existing nine blocks in Abak Agricultural Zone which were IkotEkang, Ekparakwa, Utu EtimEkpo, IkotOkoro, and UruaInyang. The third stage involved the random selection of four (4) cells from each of the selected blocks making a total of twenty (20) cells. The last stage involved the random selection of seven (7) oil palm processors from each of the cells using a list of oil pam processors that have registered with bank of Agriculture in the study area making a total of one-forty (140) oil palm processors that was used for the study. Selection of respondents was done through balloting.

Method of data analysis

In addition to descriptive statistics such as means, frequency and simple percentages that were used, data was also analyzed using the following inferential statistics:

Z test. This was used to analyze the differences in farm capital between credit using and non- credit using oil palm processors. The formula for the z test is presented as follows:

$$Z_{cal} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}. (1)$$

Where Z_{cal} is the calculated value of Z distribution; \bar{X}_1 is the mean value of farm capital for credit users \bar{X}_2 is the mean farm capital for non-credit users; S_1^2 is the variance for credit users S_2^2 is the variance for and non- credit users; N_1 = number of credit users; N_2 = number of non- credit users;

Decision rule: The null hypothesis was rejected if the value of Z calculated was greater than its tabulated value using 0.05 level of significance.

Pearson Product Moment Correlation Coefficient. This was used to examine the relationship between credit income and farm capital of oil palm processors. The formula is stated thus:

$$r_{xy} = \frac{n(\sum xy) - (\sum x)\sum(y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}} \quad (2)$$

Where x = Credit income share of processor's total household income

Y = Total value of farm processing asset of processors in naira

Causality Test result

Causality test was used to test the interrelationship between credit access and farm asset accumulation. In doing this, a simultaneous equation model was adopted and patterned towards the work of Gilligan (2012). In line with the modified approach, a two-step Maximum Likelihood procedure was applied to allow for the endogeneity of both credit access in the farm asset and that of farm asset in the credit access model. In the first stage, the credit access model (measured as credit income share of processor's household income) was specified as;

$$Y_{y1} = \alpha + \beta_i Y_{2i} + \varepsilon_1 \quad (3)$$

In the second stage, the generated residuals from the credit access model was employed as an explanatory variable and specified as

$$Y_{y2} = \alpha + \beta_i Y_1 + K_{e1} + \varepsilon_2. \quad (4)$$

Where Y_{y1} = credit income share of processor's household income in n

Y_{y2} = farm asset value of processor in naira

E = credit income share residual and

K = Coefficient of credit income share residual

Multiple regression analysis

This was employed to estimate factors influencing farm asset accumulation. The explicit form of the model is stated as

$$Y = b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n + e_i \quad (5)$$

Where

Y = Total value of processing assets owned by a processor

X's are the respective explanatory variables

X_1 = Access to credit (Yes=1, No=0)

X_2 = off-farm income (naira)

X_3 = Sex of processors (Male 1, Otherwise 0);

X_4 = Age of processors (years);

X_5 = Processing experience of processors (years)

X_6 = Farm income of processors (Naira);

X_7 = Extension visit (Number of extension contact in a year);

X_8 = Membership of Cooperative and other farmer's group (No. of groups that a processor belongs to)

X_9 = Educational level of processors (Years).

X_{10} = Household size of processors (numbers)

Three functional forms of the model were estimated and the lead equation chosen based on the number of significant variables as well as other econometric criteria

Findings and discussion

Socio-economic characteristics of oil palm processors

Findings of this study showed that oil processors differ on the basis of their socioeconomic characteristics. In terms of educational status, findings showed that most (85.7%) of oil palm processors were educated, with a mean of 12 years. A breakdown of this shows that majority (42.9%) attended primary school, 30.07 attended secondary school, 12% had OND/NCE, 4.3 were holders of HND/B.Sc/B.A, 0.7% had PGd/M.Sc/Ph.D While 30.7% had no formal education. This high educational attainment of processors will impact positively on oil processing because education will facilitate their adoption of moderate oil processing information. In the study area, Vincent, Akpan and Udoaka, (2012) reported that about 90% of oil processor were educated with 43.33 attending primary school and 26.27 obtaining vocational trainings, respectively. Age wise, result further showed that majority (41.4%) of processors were within the age bracket of 51-60 years with a mean of 43 years. This was followed by the age bracket of 41-50 years (32.9%), 31-40 years (12.9%) above 60 years (8.6%) and 20-30 years (4.2%) respectively. The prevalence of age bracket 51-60 years shows that oil processing in the study area was dominated by old people. Vincent, Akpan and Udoaka¹⁸ reported that 40% each of oil processors in the study area were within the age bracket of 40-60 and 61-50 years, respectively. Considering household size, result showed a mean household size of 6 persons with a dominant household size of 5-10 persons (44.3%). This was followed by household's size of less than 50 persons (34.3%) 11-15 persons (7.1%) and above 15 persons (4.3%). The huge household sizes in the study area is an indication that there will be abundant labour for oil palm processing activities. It may also imply that more of the oil palm product processed will be diverted for household consumption rather than being taken to the market. In the study area, Vincent, Akpan and Udoaka, (2012) reported that majority of the oil processors had household sizes of 6-10 persons. Regarding processing experience, oil palm processors were found to be very experienced with a mean of 13 years of experience. Majority (36.4%) had 10-15 years of experience, 27.9% had 5-10 years of experience, and 21.4% had above 15 years of experience while 14.3% had less than 5 years of experience. The high years of experience among processors is expected to impact positively on oil processing. This is expected because experience processor might have learned through several years of trials and errors and have corrected their production mistakes, hence, attaining production efficiency. In the study area, Vincent, Akpan and Udoaka, (2012), reported that oil palm processors were quite experience.

In terms of ownership of processing equipment, majority (67.1%) did not own processing equipment while only 44.3% owned oil processing equipment. Also, 57.1% had no access to extension services while 42.9% had. This implies that access to modern oil processing information might be low in the study area. Result further showed that a greater number of processor (67.1%) were members of cooperative while 32.9% were not. This is desirable for optimum oil palm processing because cooperative membership will offer processors opportunity to access modern oil processing inputs and embrace other oil processing technologies Examination of marital status showed that majority (67.9%) were married, 7.1% divorce, 3.6% widowed where 21.4% were widowed. The preponderance of married respondents is an indication that much labour will be available for oil processing in the study area; it is also an indication of consistency because married people are most times stable in their production operations. This might have informed the high years of oil processing experience possessed by respondents in the study area. Vincent, Akpan and Udoaka, (2012), reported that above 96.67% of oil processor in the study area were married.

Sex wise, most of the oil processors (20%) were men while 35% were female. The dominance of men in palm oil processing might be attributed to the tedious nature of palm oil processing which requires strength and vigor that are most times possessed by mal folks. Vincent, Akpan and Udoaka, (2012) reported that palm oil processing in the study area was dominated by men (100%).

Table 1: *Socio economic characteristics of respondent*

Variable	Number	Frequency	Mean
Education			
No formal Education	20	14.3	
Primary School	60	42.9	12
Secondary School	43	30.7	
NCE/OND	10	7.1	
HND/B.Sc/B.AS	6	4.3	
PGd/M.Sc.Ph.D	10	7.1	
Age:			
Less than 30	6	4.2	
30-40	18	12.9	
41-50	46	32.9	43
51-60	58	41.4	
Above 60	12	8.6	
Household Sizes:			
Less than 5	48	34.3	
5-10	62	44.3	
11-15	41	29.1	
Above 15	6	4.3	
Processing Experience'			
Less than 5 years	20	14.3	
5-10 years	39	27.9	13
11-15years	51	36.4	
Above 15 year	30	21.4	
Ownership Processing Equipment			
Yes	62	44.3	
No	78	55.7	
Membership of Cooperative			
Yes	94	67.1	
No	46	32.9	
Access of Government			
Yes	60	42.9	
No	80	57.1	
Sex			
Male	98	70	
Female	42	30	
Marital Status			
Married	95	67.9	
Divorce	10	7.1	
Widow	5	3.6	
Single	30	21.4	

Source: *Field survey, 2021*

Volume of credit accessed by oil palm processors in the study area

As observed in Table 2 which presents the volume of credit accessed by oil palm processors in the study area, a total of ₦ 11,256,500 was accessed as credit by oil palm processors of this ₦ 7, 156, 500 (63.6%) and ₦ 4,100,000 (36.4%) were accessed from informal and formal sources respectively. This indicated the over dependence of oil processor on informal sources of credit in the study area. This might have been informed by the low ownership of processing equipment in the study area that can be mortgaged for loan.

Table 2: *Volume of credit accessed by oil palm processors in the study area*

Credit accessed	Informal (₦)	Formal (₦)	Total Amount (₦)
Credit accessed	₦ 7, 156, 500	₦ 4,100,000	11,256,500
Percentage of total credit	63.6%	36.4%	100%

Source: *Computed from field survey, 2021*

Relative contribution of credit to total farm income of oil palm processor

Table 3 presents the share of credit to total farm income of oil palm processors in the study area. From the table, the total annual farm income of processors was ₦43, 256,000 with a mean of ₦312,260. of this, oil palm processing income accounted for ₦29,360,000 (₦67.16%), other sources such as pension, returns from shares, remittances ₦3,100,000 (7.09%) while credit share of total farm income was ₦11,256,500 (25.75%) the how contribution of credit brings to the forefront the poor access to credit by oil palm processors in the study area. It also furthers the literature on the inability of agro entrepreneur to access formal credit in Nigeria as reported by (Nwankwo, 2013;, Bassey, Agom and Ikpe, 2016).

Table 3: *credit share of total annual farm income of oil processors*

Income Sources	Income ₦	Percentage	No. of Respond	Mean
Oil palm processing	29,360,000	67.16	70	
Other sources (pension, share and remittances)	3,100,500	7.09	23	
Credit income	11,256,500	25.75	70	
Total	43,716,500	100	163*	312,260

Note: * signify multiple respondent .Source: computed from field survey data, 2021

Relationship between credit income and farm capital of oil palm processors

Table 4 below presents the result of the Pearson Product Moment Correlation Coefficient that was employed to examine the relationship between credit income share of total farm income and farm capital. Result yielded a positive coefficient (0.244) and was significant at 5% probability level. This implied that a 5% increase in credit access will increase total farm capital of oil farm processors by 0.244 percent. This is expected because access to credit facilities will boost farm income and enhances the liquidity position as well as the capacity of oil processors to acquire more tangible processing equipment.

Table 4: *Relationship between credit income share of total farm income and farm capital of oil palm processors (n= 140)*

Credit income share of total farm income
Farm asset value Pearson correlation 0.244
Significance 0.000
N 140

Correlation is significant at 0.05 levels (2 tail)

Differences in farm capital between credit using and non-credit using processors.

Table 5 presents the level and differences in farm capital between credit and non-credit using processors. As observed in the table, credit users had a mean asset value of ₦842, 137.93 while non-credit using processors had a mean asset value of ₦643, 799.99..The difference in mean capital value between both category of respondent were statistically significant at 1% level of probability (Zcal =2.901). Hence the null hypothesis that there is no significant difference in farm asset between both categories of processors can be rejected and the alternate hypothesis accepted.

Table 5: Differences in farm processing asset value between credit using and non-credit using oil palm processors

Processors category	Total farm capital	Mean	SD	Mean diff	Zcal
Non-credit					
Using	₦45,065,993.12	₦643799.99	242,118.8	₦188,337.81	2.901
Credit using	₦51,949,655.34	₦842,137.93		331,582.1	
Total	₦119,015,648				

Source: computed from author using field Survey data 2021.

Causality between credit access and farm asset accumulation

The causality result between credit access and farm asset accumulation is presented in Table 6 and 7. As evidenced in Table 6, the farm asset model attests to the endogeneity of credit income. The model yielded a t statistic value of 3.958 significant at 1% probability level. This implied that a 1% increase in credit access will increase farm asset accumulation by 0.653%. The estimated coefficient of determination (R²) value of 0.225 indicated that credit income accounted for 22.5% of the total variation in farm asset. This finding complements those of Shittu, (2011) who found that credit access boost farm asset accumulation.

In Table 2, the credit access model), we included both the farm asset and the residual from the farm asset model as explanatory variables. Result yielded a positive significant value for farm asset (P > 0.01).. This implied that processors who had accessed credit in the past had higher probability of desiring more credit. The sign and significance of credit income and farm asset indicated a complementary relationship between both variables. The sizes of their coefficients (0.953) for credit income and 1.019 for farm asset attested to the existence of bi-directional relationship between credit income and farm asset accumulation in the study area.. In addition, the estimated coefficient of the residual generated from the farm asset model in Table 6 was significantly different from zero at 1% level thereby further confirming the existence of a bi-directional relationship between credit income and farm asset.

Table 6 Farm processing asset model

Parameter	Coefficient	Tvalue	Significant
Constant	374,314.117	12.8240	0.000
Credit access	0.9533	3.9580	0.000
		R ² = 0.225	
Mean standard residual	-1.918E-15		
Sum of standard residual	-2.99E-13		

Dependent variable: Farm asset value

Table 7: Credit access model

Parameter	Coefficient	T value	Significant
Constant	425,116.244	-61.11	*0.000
Farm asset	1.01931.64		*0.000
Farm asset residual	-274,341,300	-127.44	*0.000
$R^2 = 1.08$			
F cal 3.125E-14			
Dependent variable: credit income			

Determinants of Farm asset accumulation by oil palm processors

The result of estimates for the determinants of farm asset accumulation among oil palm processors is presented in Table 8. Of the three functional forms that were estimated (linear, quadratic and double log), the linear form was chosen as the lead equation based on the number of significant variables and the conformity of the estimates to a priori expectation. The result yielded a R^2 value of 0.874, denoting that about 87.4 percent of the variability in asset accumulation is accounted for by the explanatory variables included in the model. Findings showed that access to credit, off-farm income, processing experience, farm income, membership of cooperative and other social organization and educational attainment were all positive and significantly boost farm asset accumulation at 5, 1, 5, 1, 5, 5 percent levels, respectively while household size significantly farm asset accumulation at 1 percent level of significance. The positive sign for access to credit is expected because credit access will boost the liquidity status of oil palm processors, thereby enhancing their chances of acquiring more tangible processing assets. Sanusi, Dipeolu and Mimoh, (2016) reported that credit enhances farm income. The positive relation of off-farm income and farm income are in line with theoretical postulations because both are vital income sources that oil palm processors can leverage on to solve their domestic problems and also have excess income left for asset acquisition. Studies by (Nishad and Tangila, 2014; Hazel, Syed, Zupi and Miyazako, (2011)) further affirmed that off-farm income contribute significantly in boosting farm income. This finding supports those of Shittu (2011) who reported that off-farm income increases asset accumulation. The positive influence of processing experience is justified in that experienced farmers might have over the years accumulated so much income through savings that can be used in acquiring more tangible processing assets than their inexperienced counterpart. They are also so knowledgeable in income enhancing techniques. Membership of cooperative and other social organizations will broaden members contacts and foster their access to long term credit as well as services which otherwise would not have been possible. Group members can leverage on such contacts to boost their farm income through which they can acquire more production assets. As for the positive influence of education, educated farmers can leverage on education as a social capital tool to boost their net farm returns. High educational attainment has also been reported to boost farmer's access to credit. With such credit acquisition, liquidity is enhanced and acquisition of farm asset is guaranteed. Sanusi, Dipeolu and Mimoh, (2016) reported that education enhances farmer's income. Considering household size, the positive relationship was expected because higher household size will translate into huge family commitment. Hence, a substantial part of the net farm returns that would have been used in procuring farm asset may likely be channel into solving several domestic family problems. Studies by .Sanusi, Dipeolu and Mimoh, (2016) reported that huge household sizes reduce farm income.

Table 8: Multiple regression estimates for the determinants of farm asset accumulation

Variable	Linear (L)	Quadratic	Double log
Constant	0.68750	6.321	-5.016
	11.5112***	7.183***	-3.423***
Access to credit	0.0060	0.007-	
	(2.382)**	(4.402)***	
Off-farm income	2.28E06	5.31E-12	0.62
	(3.422)***	(2.364)**	(1.994)*
Sex of processor	0.0020	0.003-	
	(-1.108)	(0.968)	
Age of processor	-0.003	-4.41E-07	-0.005
	(0.824)	(1.003)	(1.428)
Processing			
Experience	7.13E-04	2.35E-04	0.342
	(2.442)**	(0.714)	(1.246)
Farm income	0.0092	2.21E-06	1.364
	(4.226)***	(1.022)	(8.004)***
Extension visit	-0.0080	0.0030	0.002
	(1.244)	(0.848)	(.34)
Membership of			
Cooperative/other	0.0092	6.0E-05	1.664
Social groups	(2.402)**	(6.241)***	(3.063)***
Educational level	0.0040	0.001-	1.662
	(2.061)**	(0.334)	(0.208)
Household size	-0.004	7.12E-07	-0.008
	(3.741)***	(0.334)	(0.208)
	$R^2 = 0.8740.7560.644$		
	Fstat 664.16***596.12***98.18***		

Note: ***, **, * signify significant at 1, 5 and 10 percent, respectively.

Source: Output of STATA using field survey data, 2021. L signify the lead equation

Conclusion

In this study, credit access and its relationship with asset accumulation have been analyzed and determinants of farm asset accumulation estimated. Findings have shown that credit using processors had more farm asset value than their non-credit using counterpart, indicating that credit access enhances asset accumulation. The study decries the poor access to formal credit by processors in the study area and attested to the existence of a bi-directional relationship between credit access and farm assets accumulation. It has also revealed that accumulation of farm assets is influenced by credit access, off-farm income, processing experience, farm income, membership of cooperative, educational attainment and household sizes. Accordingly, the study concluded that credit access and asset accumulation have a complementary relationship. Hence, future policy measures design to boost farm asset accumulation should lay emphasis on measures that will promote credit access and boost farm income and vice versa.

Recommendations

The following recommendations are offered based on the research findings:

- (i) To boost farm capital accumulation, policies that will enhance credit access should be pursued. This can be achieved through (q) provision of timely information to processors on the availability of cheap, long-term credit in the study area. The role of extension agent becomes crucial here. (b) Processors should be encouraged to form cooperative. (c) if possible, a special financing scheme should be evolved that will incorporate the peculiarity of oil palm processing as it bothers on the gestation period of oil palm.
- (ii) In addition to sitting agro equipment leasing centers in the study area, affordable locally fabricated processing equipment should be introduced to oil palm processors as a substitute to the costly foreign processing equipment.
- (iii) Farmers should be encourage to form cooperatives
- (iv) Farmers should be sensitizing through series of awareness campaigns on the need to embrace family planning and other birth control procedures as a means of reducing household sizes.

Appreciation

In this research, we sincerely acknowledge the contribution of Mr Ben Edet who drove us around throughout the research period. We also appreciate the contributions of staff of Bank of Agriculture, Abak Local Government Area, AkwaIbom State, Nigeria for their support

References

- {1} Abiodun A., Ogundeji, C M. and Stephen O. 2018., Impact of access to credit on farm income: policy implications for rural agricultural development in Lesotho: Journal of agricultural economics research, policy and practice in southern Africa. Volume 57, page 152 – 166.
- {2} Ajah, E.A, Igiri, J.A and Ekpenyong, H.B., 2017: Determinants of access to credit among rice farmers in Biase Local Government Area of Cross Rivers State, Nigeria. Global Journal of Agricultural Sciences 16, (2): 43-51.
- { 3} Bassey, N. E., Agom, D. I. and Ikpe, I. K. 2016. Joint Liability Approach: A loan default mitigating strategy among beneficiaries of Micro Finance Bank loans in AkwaIbom State, Nigeria. Paper presented on the 17th Annual National Conference of Nigerian Association of Agricultural Economics (NAAE), held at the Federal University of Technology, Owerri, October 20th-23rd, pp 103-109.
- { 4} Bassey, N. E. Arene, C. J. Okpukpra, B. C. 2014. Analysis of capital Structure and Efficiency of Capital- employed in Agro-Allied firms in Nigeria. Review of Agricultural and Applied Economics, 17(2), 113-117.
- {5} Bassey, N. E., Asinya, F. A., and Amba, E. A. 2014. Bank Lending, Macropolicy variables and the growth of Small Scale Industries in Nigeria. International Journal of Business and Social Studies, 5(9), 284-290.
- {6 } Bassey, N.E, Okeke, C.C and Edet, M.E 2015. Empirical link between macroeconomic Policy Variables and the performance of quoted agro-based firms in nigeria. Agricultural Science, 3 (1):21-30
- {7 } Briggeman, B.C. 2011. The Importance of off-farm income to servicing farm debt. Economic Review, Available at www.KansasCityFed.org.
- {8} Ehiakpor D.S, Adzawla W. and Danso- Abbeam G. 2016. Effect of access to agricultural credit on farm income in the Talens, District of Northern of Ghana. Russian Journal of agricultural and socioeconomic sciences, 55(7):40- 46
- {9} Haggblade S, Hazell P and Reardon T 2010. The Rural Non-farm Economy: Prospects for Growth and Poverty Reduction. WorldDev 38(10):1429-1441

- {10} Hazell, P., Syed, S., Zupi, M. & Miyazako, M. 2011. Key issues in promoting increased investments in agriculture. Technical Workshop on Policies for Promoting Investment in Agriculture, FAO, 12-13 December, 2011.
- {11} Lagerkvist, C., Larsen, K. & Olson, K. 2007. Off-Farm Income and Farm Capital Accumulation: A farm-level analysis. *Agricultural Finance Review*, 67 (2), 241–257.
- {12} Ministry of Niger Delta Affairs 2011. Federal Republic of Nigeria Available online at [o](#). last accessed on 28th April, 2021.
- {13 } National Population Commission [NPC]. 2006. National Census Data. Retrieved June 14, 2019, from www.population.gov.ng/.
- {14 } Nishad N and Tanjila W/ 2015. Contribution of Rural Non-farm Activities in Household Income Generation: A Study on Khulna Region. *Journal of Humanities and Social Science*, 20(10):01-12
- {15} Nwankwo, O.G, 2013. Effects of globalization on Foreign Direct Investment in Nigeria.. *Loren Journal of Business and Economics*, 1 (1): 11-17
- {16 } Sanusi, D, Dipeolu, A. O., and Momoh, S., 2016 .Effects of farm and non-farm income on income inequality among rural households in Osun State, Nigeria *International Journal of African and Asian Studies*, 25 (1) : 1-10.
- {17} Shittu, A. M. 2011. Off-farm labour supply and production efficiency of farm household in rural South-West Nigeria. *Agricultural and Food Economics*, 2(8):1-21
- {18} Vincent, Akpan and Udoaka , .2012. Socioeconomic Determinants of the Performance of Palm Oil Mill Owners in IkotEkpere, AkwaIbom State, Nigeria. *Proceedings of 20th Annual Conference of Farm Management Association of Nigeria*. October 15th – 19th.